

DAVID DOUGLAS WINTERS

B.S., M.S., D.L.L., J.D.
PATENT ATTORNEY

In The United States Patent and Trademark Office

March 21, 2005

Appn. Number: 10/772,039

Appn. Filed: 02/04/2004

Applicants: Lars RICHTER and Pers SVENSON

Title: Machine for simultaneously measuring and compounding angles about multiple axes

Examiner: Courson, Tania C.

Art Unit: 2859

Attorney Docket No. 030716(R)RICHTER

Submission of Corrected Drawings

Attn: Chief Draftperson

PO Box 1450

Alexandria, VA 22313-1450

USA

Sir:

New drawings sheets 1 and 4 for the above application are enclosed to correct original figs. 1 and 4 as necessary. Please substitute these new figs. 1A and 4A for the corresponding figs. 1 and 4 on file.

Very Respectfully,

David Douglas Winters, Esq.

Reg. No. 50,743

2277-C Suite 237, Wilma Rudolph Blvd

Clarksville, TN 37040-5898

Telephone: 931-906-4445

DAVID DOUGLAS WINTERS

B.S., M.S., D.L.L., J.D.
PATENT ATTORNEY

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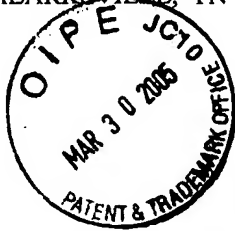


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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,039	02/04/2004	Lars Richter	030716 RICHTER	5101

7590 12/01/2004
DAVID DOUGLAS WINTERS
2277-C SUITE 237
WILMA RUDOLPH BLVD
CALARKSVILLE, TN 37040-5898



EXAMINER

COURSON, TANIA C

ART UNIT PAPER NUMBER

2859

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,039

Applicant(s)

RICHTER ET AL.

Examiner

Tania C. Courson

Art Unit

2859

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02FEB04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 1, 1A, 2, 3A-3G, 4, 4A-4C, 4F-4G, 5, 5A-5G, 8, 8A-8B and 9-16 (which consists of the entire set of claims) been renumbered 1-36, with appropriate changes to the dependency (see Attachment #1 for numbering changes).

2. Claims 1-3, 10, 16 and 31 are objected to because of the following informalities:

- a) Claims 1-3: it is unclear whether "/" (i.e. sensor(s)/accelerometer(s)) signifies, "and", "or" or "and/or". For examination purposes, the examiner has assumed that "/" signifies "or";
- b) Claims 10 and 16, in lines 1-2, respectively, "the machine's case" lacks antecedent basis;
- c) Claims 31 in line 3, "the sensor module" lacks antecedent basis;

Appropriate correction is required.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

- a) Claim 34 recites the limitation "an alarm signal" in line 1, this is not found in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Regarding claims 1, 2, 3, 31 and 33 the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6. Regarding claim 36, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

7. Claims 8-9 and 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. It is

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not clear how graphic display of the bubble level is read without use of scales on the display case.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, 6-7, 12, 14-15, 18, 20-21, 26-31, 33 and 35-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Richter (US 6,715,213 B2).

Richter discloses in Figures 1, 1A and 2, a gyroscopic device comprising:

With respect to Claims 1-2:

- a) one or more multi-axis tilt sensor(s)/accelerometer(s) (Fig. 1A, gyroscope 22),
or multiple tilt sensors/accelerometers, situated about different axis;
- b) a computing device (Fig. 1A, microprocessor 24) that receives inputs from the
said tilt sensor(s)/accelerometer(s) (Fig. 2);
- c) calculates compounded angles of the various angles it measures (column 3,
lines 5-10);

- d) translates expressions of angular measurement and outputs the results for display, computation or extraction (Fig. 1, display 38).

With respect to Claims 3-4, 6-7, 12, 14-15, 18, 20-21, 26-31, 33 and 35-36:

- a) wherein a means of information extraction is incorporated (Fig. 1, laser 34);
- b) displays the results of the measurements and/or calculations in graphic, numeric format (Fig. 1);
- c) wherein the display format is user controllable allowing selection of either graphic or numeric format (Fig. 1);
- d) wherein multiple displays may be exhibited sequentially (column 3, line 57 through column 4, line 8);
- e) wherein multiple display modes are controllable, being user selectable to exhibit simultaneously or sequentially (column 3, line 57 through column 4, line 8);
- f) wherein angles may be measured and/or calculated in multiple modes comprising various levels of precision and of speed of measurement and/or calculation (Fig. 1);
- g) wherein the modes of measurement and /or calculation may be selected automatically by the machine itself (column 4, lines 37-50);
- h) wherein the modes of measurement and /or calculation may be manually selected by the user (column 3, line 57 through column 4, line 8);

- i) wherein one or more means of orienting the device with respect to distant or remote reference points is incorporated, these means being preferably by use of a laser light or other electromagnetic energy beam projected from the device, but also including optical sight or reticule, audio beam, mechanical arm or extension, or any other manner of remote reference (Fig. 1, laser module 34);
- j) wherein the measurements and results of calculations may be recorded and later displayed or output for reference (column 3, line 57 through column 4, line 8);
- k) wherein computing component can automatically select a display mode in accordance with the orientation of the device as detected by the sensor module (column 3, line 57 through column 4, line 8);
- l) wherein a discrete signal is emitted when the unit attains one or more pre-determined angular positions (column 5, lines 34-49).

With respect to claims 4 and 18: Regarding the term “graphic”, the examiner utilizes the following broadest definition: “of or relating to written representation” (the American Heritage Dictionary, 1992).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5, 8-11, 13, 16-17, 19, 22-25, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richter in view of Heger et al. (US 5,956,260), Beckhart et al. (US 6,526,668 B1) and Franks (US 4,546,551).

Richter discloses a gyroscopic device, as stated above in paragraph 9.

Richter does not disclose wherein displays may be exhibited simultaneously, wherein one or more graphic displays resemble the form of a bull's eye bubble level, wherein one or more graphic displays resemble the form of a curved-tube bubble level, wherein displays appear on different faces of the machine's case according to the axis about which the measurements or calculations producing them are made, display a line representing the edge of the plane in which that angle lies, wherein the ambient temperature is measured and displayed for calibration purposes and wherein an alarm signal is emitted that varies in accordance with the machine's proximity to pre-determined angles.

Heger et al. teach an inclination device that consists of wherein displays may be exhibited simultaneously (Fig. 1A), wherein displays appear on different faces of the machine's case according to the axis about which the measurements or calculations producing them are made (Fig. 1A), display a line representing the edge of the plane in which that angle lies (Fig. 1A and inclination segments 12 d-e) and wherein an alarm signal is emitted that varies in accordance with the machine's proximity to pre-determined angles (Fig. 1A, loudspeaker icon 16).

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the gyroscopic device of Richter, so as to include displays exhibited simultaneously, a line representing an angle and an alarm, as taught by Heger et al., so as to provide additional measurement and audio features to enhance the precision in measurement during use of the device.

Beckhart et al. teach a leveling device that consists of wherein one or more graphic displays resemble the form of a bull's eye bubble level (Fig. 1, graphic display 22). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the gyroscopic device of Richter, so as to include a bull's eye graphic display, as taught by Beckhart et al., so as to provide an enhanced visual display during use of the device.

With respect to claims 9 and 23: the shape of the graphic display, i.e., curved-tube bubble level, absent any criticality, are only considered to be obvious modifications of the shape of the graphic display (Fig. 1, graphic display 22) disclosed by Richter and Beckhart et al. as the courts have held that a change in shape or configuration, without any criticality, is within the level of skill in the art as the particular shape claimed by Applicant is nothing more than one of numerous shapes that a person having ordinary skill in the art will find obvious to provide using routine experimentation based on its suitability for the intended use of the invention. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). Therefore, one skilled in the art would change the shape of the graphic display in order to suit the needs of the user of the device.

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Franks teaches a measurement device that consists of wherein the ambient temperature is measured and displayed for calibration purposes (Fig. 1, temperature display 37). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the gyroscopic device of Richter, so as to include an ambient temperature display, as taught by Franks, so as to provide enhanced measurement features during use of the device.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art cited on PTO-892 and not mentioned above disclose a leveling device:

Hamar (US 2004/0083616 A1)

Cetera (US 6,595,683 B1)

Alger et al. (US 5,191,713)

Butler et al. (US 4,912,662)

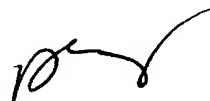
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania C. Courson whose telephone number is (571) 272-2239. The examiner can normally be reached on Monday-Friday from 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez, can be reached on (571) 272-2245.

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The fax number for this Organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DIEGO F.F. GUTIERREZ
SUPERVISORY PATENT EXAMINER
GROUP ART UNIT 2859

TCC
November 29, 2004



Under the Patent and Trademark Act of 1995, no patents are required to respond to a collection of information unless it contains a valid OMB control number.

Approved for use through 10/31/2002. OMB 0351-0331
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	
		Filing Date	09 FEB 2004
		First Named Inventor	LARS RICHTER
		Art Unit	
		Examiner Name	
Sheet 1 of 1	Attorney Doctel Number	030716richter	

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No. 1	Document Number Number - Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Chd Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
TL		US-5,259,118	11-09-1993	HEGER	PG. 11-26 53-67.
TL		US-5,335,190	08-02-1994	NAGLE ET AL	PG. 424 45-51.
TL		US-5,956,260	09-21-1999	HEGER ET AL	PG. 44-25 37-45.
TL		US-6,037,874	03-14-2000	HEIRONIMIAS	PG. 42-61
		US-			PG. 4-27. PH. 35-58.
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Examiner Signature		Date Considered	11/23/04
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Hint Codes of USPTO Patent Documents at www.uspto.gov or MPEP 801.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Notice of References Cited

Application/Control No.

10/772,039

Applicant(s)/Patent Under
Reexamination
RICHTER ET AL.

Examiner

Tania C. Courson

Art Unit

2859

Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-2004/0083616	05-2004	Hamar, Martin R.	033/366.11
	B	US-6,715,213	04-2004	Richter, Lars	33/328
	C	US-5,956,260	09-1999	Heger et al.	702/154
	D	US-6,595,683	07-2003	Cetera, Carl	368/316
	E	US-6,526,668	03-2003	Beckhart et al.	33/366.11
	F	US-5,191,713	03-1993	Alger et al.	33/315
	G	US-4,912,662	03-1990	Butler et al.	702/154
	H	US-4,546,551	10-1985	Franks, Jeffrey L.	33/356
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	J	US-			
	K	US-			
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